

PROBATIONARY
SURGICAL ESSAY

ON

N E U R A L G I A,

Commonly known by the name of

T I C D O U L O U R E U X,

SUBMITTED,

BY AUTHORITY OF THE PRESIDENT AND HIS COUNCIL,

TO THE EXAMINATION OF THE

Royal College of Surgeons of Edinburgh,

WHEN CANDIDATE

FOR ADMISSION INTO THEIR CORPORATION,

IN CONFORMITY

TO THEIR REGULATIONS RESPECTING THE ADMISSION

OF

ORDINARY MEMBERS;

By JOHN CAIRD.

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TO

JAMES ANDERSON, M. D.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS,
EDINBURGH,

THIS ESSAY

IS INSCRIBED BY

HIS OBLIGED

AND SINCERE FRIEND,

THE AUTHOR.

ESSAY

ON

NEURALGIA.

PRELIMINARY OBSERVATIONS.

OF the many diseases to which the human body is liable, few, I believe, are more distressing than that which I have chosen for the subject of this Essay. It is one of those painful affections, which, while it tortures and afflicts the miserable sufferer, perplexes and troubles the physician; who, after a fruitless but persevering trial of every medicine that his skill can supply, or his imagination suggest, is obliged to consign the unfortunate patient to the care of the surgeon.

At what period this singular affection first made its appearance, it will now be difficult to ascertain; but it is certain we have no accurate account of it previous to the middle of last century, when the attention of the medical world was directed to it by the publication of some cases by M. ANDRÉ and Dr J. FOTHERGILL*. Since that time, however, the subject has undergone a good deal of investigation; many interesting cases have been related by different writers, both in this country and on the continent, and a variety of terms have been employed for its designation.

Dr FOTHERGILL, to whom we are indebted for the first accurate account of the complaint in this country, and who was, no doubt, acquainted with its nature, vaguely termed it *a painful affection of the face*; and

* M. André described it in 1756.—Dr Fothergill in 1776. See Medical Observations and Enquiries, Vol. V. p. 129.

some of the German writers, on the Doctor's authority, and with as little discrimination, named it *Dolor faciei Fothergilli*. SAUVAGE, in his Nosology, has noticed the disease under the title *Trismus Dolorificus*, and Dr DARWIN calls it *Hemicrania Idiopathica*. M. ANDRE, to whom we are also indebted for many interesting cases, named it *Tic Douloureux*, and Dr S. FOTHERGILL, who has collected the history of the complaint, suggested the term *Faciei morbus nervorum crucians*. But, perhaps, after all, the name *Neuralgia*, which I have adopted on the authority of M. CHAUSSIER, is the least exceptionable. It has the advantage of being conveniently short, at the same time that it distinctly arranges the disease in the class Neuroses, to which, as a nervous affection, it undoubtedly belongs.

SEAT AND SYMPTOMS.

NEURALGIA, we may remark, is not confined to any particular part of the body. LENTIN relates a case where the pain was seated in the calf of the leg; and VERPINET*, COOPER †, and ABERNETHY ‡, met with cases in which the nerves of the arm, and finger were affected. The most common seat of the affection, however, is in the nerves which are distributed on the face; namely, in the second branch of the fifth pair, or infra orbital nerve, which passes through the foramen infra orbitarium, to be ramified on the cheek, ala nasi, upper lip, teeth and gums; in the third branch of the fifth pair, or inferior maxillary nerve, which

* See Journal de Medicine, Vol. 10.

† See Surgical Dictionary.

‡ See Surgical Observations on Injuries of the Head, and on Miscellaneous Subjects, p. 203.

passes through the canalis mentalis of the lower jaw to supply the teeth, the under lip, and chin ; in the facial nerve or portio dura of the seventh pair, which passes out of the foramen stylo mastoideum of the temporal bone, sending branches to supply the external ear, parotid gland, and muscles of the face ; and communicating there with the second and third branches of the fifth pair. Besides these, it is probable, the first branch of the fifth pair, which is dispersed on the parts about the eye, is also occasionally affected. But, from the intimate connexion that subsists between all these nerves, it may be difficult, in some cases, to ascertain, with any degree of accuracy, in what branch the pain originates.

It begins however, in general, with a slight sensation of pain in some part of the face, or side of the head, very commonly under the orbit of the eye ; and shooting from thence toward the malar bone, ala nasi, and upper

lip of the same side. Sometimes both sides of the face are affected at the same time, but this rarely happens at the commencement of the disease. The attack of pain is sudden, darting with the rapidity of lightning to the neighbouring parts, continues perhaps a quarter of a minute, and then goes off. It returns at irregular intervals: sometimes there are several paroxysms in a few minutes, and at other times not more than two or three occur in the space of an hour. Even in the advanced stages of the complaint, and when the pain is most severe, the paroxysms observe no sort of regularity, except in their recurring rather oftener during the day than at night—very probably from the exciting causes being then more frequently applied.

The paroxysms vary greatly, also, in the degree of severity. At one time the face is flushed, the eyes are red, and the whole features distorted, as if affected with spasm; while at another time the countenance is only

expressive of anxiety. When the pain is very intense, the corner of the mouth is generally drawn up, the under jaw seems fixed, and often there is a copious flow of scalding tears from the eyes.

In this way the disease sometimes goes on increasing in severity, till the patient's constitution is gradually undermined, and death relieves him from his sufferings. That this was the event in two or three instances on record seems probable, though the fact, I know, is doubted, by a late writer on the subject*. For my own part, I can readily believe that a complaint of such severity as this is, when long continued, may occasionally have such a termination.

It is to be admitted, however, that this is not generally the case; for, in by far the

* Dr Samuel Fothergill.—See his Essay on Tic Douloureux, page 27.

greater number of instances, the constitution receives but little injury from it. The complaint sometimes goes off without any apparent cause, leaving the patient free of pain for months together; but, like the gout, whoever has had one attack, unless the disease has been removed, may pretty confidently expect another.

DIAGNOSIS.

THOUGH the symptoms that characterise this complaint, are in general pretty distinctly marked; yet, as they have sometimes been mistaken for, and confounded with, those of Tooth-ach and Rheumatism, I shall briefly notice the distinctions.

From Tooth-ach it is distinguished by the shortness and quick succession of the paroxysms; by the total suspension of pain between the paroxysms; and by its often occurring at that period of life when there are very few teeth remaining*.

* See a variety of cases where the age is mentioned, in the *Memoirs de la Societè Royale de Medicine*, vol. v. from page 204 to 257, by THOURET.

It may be distinguished from Acute Rheumatism by the shortness and violence of the paroxysm, by the absence of general fever, and by the want of swelling, redness, and increased heat in the part affected: and, for the dull, obtuse, deep-seated pain of Chronic Rheumatism, which commonly increases at night, it can scarcely be mistaken.

In short, Neuralgia may be pretty easily distinguished from every other complaint, by the *direction* of the pain, which uniformly follows the course of the nerves, whether the affection occurs in the face or in any other part of the body.

EXCITING CAUSES.

THE causes which bring on a paroxysm, after the tendency to the disease has been established, are, external injuries, cold applied to the face, sudden passions, or emotions of the mind, eating, drinking, talking, shaving, blowing the nose, or, in short, whatever directly or indirectly irritates the part affected. In the advanced stages of the disease, the slightest touch is sufficient to bring on a paroxysm. And here, as a faithful picture, I shall make no apology for transcribing the following quotation from the work of Mr PUJOL.

“ When we observe a person who actually feels a pretty sharp attack of Tic Douloureux in the cheek, we see him knit his brows, both the eyelids are strongly compressed, and the

commissure of the lip is drawn towards the ear, as in the Sardonian laughter. The lower jaw remains immoveable, and in the same situation in which it was at the moment of attack; the respiration is slow, as if suspended, and often the patient dares not make the least cry, or utter a single exclamation. He even seems to dread the slightest motion of the body; and his forced attitudes, and almost exstatic state, much better express the violence of his pains than can any verbal description *, &c."

* See Essay on Tic Douloureux, by Dr S. Fothergill, page 23.

PROXIMATE CAUSE.

It is somewhat singular that, notwithstanding all that has been written on the subject, so little is yet known with respect to the proximate cause of this complaint. Neuralgia, we are told, is a nervous affection, or a *disease* of the nerves; but this information cannot, it is evident, prove of much use in practice, unless we are also made acquainted with the cause on which that affection or disease depends. The late Dr FOTHERGILL, on finding cicuta useful, as well in this as in cancerous affections, was led to the opinion that both depended on the same cause, namely, a cancerous acrimony; but this inference, though in some measure justified from his own practice, has not been supported by the experience of others. A similar remark will

apply to the greater number of hypotheses that have at different times been offered on the subject: they are, in general, either deficient in probability, or, altogether absurd; and it would only be wasting time to notice them here. Indeed, I believe it is no part of my task to enter on any speculation on the *causes* of disease. But were I permitted in this instance to hazard an opinion, it would go to deny the existence of any specific disease in the nerve itself as improbable; and to refer the whole affection to some irritation communicated to it from the surrounding parts*.

Perhaps this might be inferred from considering, in the *first* place, the seat of the

* Sauvage says, “Compertum est à nervis Maxillaribus, infra orbitari, aliisque faciem, collum, Maxillamve pervadentibus *irritates*, pendere hunc dirum morbum, et nervi affecti ustione, excisione sanari, &c.” Nosologia Methodica, tom. 1, p. 534.

affection, which is commonly in the nerves of the face; *2dly*, From the course of these nerves; *3dly*, From the disease occurring at that period of life when the bones of the head, in particular, often undergo a considerable change in structure*; and, *lastly*, From the relief experienced on dividing the nerve, which, were it really diseased, we could hardly expect.

* In advanced life the sutures are often obliterated by the deposition of bony matter; and not unfrequently some of the foramina are either partially obstructed, or altogether filled up. Of these last we may notice the superciliary, the parietal, the posterior condyloid of the occipital bone, &c.

TREATMENT.

WHEN the causes of a disease are unknown, its indications of cure must also be very uncertain. In the treatment of such cases, it is evident, we must either have recourse to analogy, or, like the empiric, prescribe on chance.

Such appears to be the fate of this distressing affection. A great variety of medicines have been recommended and tried; but few or none of them, I fear, can be relied on for effecting a cure. Those which are said to have been most beneficial, are, cicuta, opium, stramonium, belladonna, zinc, and arsenic. But perhaps the greater number of these are only useful, in as far as they may be occasionally employed (in this as in other painful affections) in allaying pain and irritation. Of

this, however, I would be understood to speak with some degree of hesitation, as, from the late success attending the exhibition of arsenic in a case related by Mr M'KECHNIE in the last number of the Edinburgh Medical and Surgical Journal, that medicine would still seem to be deserving of further trial*.

With respect to the use of external agents in the cure of this disease, I have only to observe that blisters, magnetism, electricity, &c. have all been employed; though with what advantage does not seem to be well determined. The magnetic influence, indeed, was highly extolled in France at one period; and in our own country, not many years ago, electricity excited some attention. We do not learn, however, that either of them has been lately had recourse to; and it is therefore

* See Edinburgh Medical and Surgical Journal, No. 27. page 300.

probable, that both have fallen into disrepute. At present, I believe, our chief reliance for a cure is placed on the division or destruction of the affected nerve; though this too, it must be confessed, has not always proved an infallible remedy.

The section of the nerve appears to have been first performed in France about the middle of the last century. VEILLARD, MARSHAL, DE HAEN, and MOREAU, relate the cases of some patients on whom they had operated. The result of their practice, though not uniformly successful, was such as to warrant a further trial of the operation; and, accordingly, it has since been repeatedly performed in almost every country in Europe. When timously employed it has generally afforded, at least, temporary relief; and although many cases are recorded in which it has failed, and the disease returned, it still continues to hold out the fairest prospect of success.

The affected nerve may be destroyed by the actual cautery, as recommended by M. ANDRE, or, what is more commonly practised in this country, it may be divided by the knife.

When the disease occurs in the face, the pain will often be found to proceed from the second branch of the fifth pair, or infra orbital nerve. Before proceeding to the operation, however, the surgeon will do well to recollect the distribution of this nerve, as it is transmitted by the infra orbital foramen in a way very different from that which the common form of expression would lead us to imagine. We usually speak of it as one branch under the name suborbital; but, in fact, it ought rather to be considered as a series of branches, for it divides before its exit, and is afterwards distributed in a radiated manner to the neighbouring parts. The rule, too, laid down by Dr HAIGHTON should never be omitted, viz. to make rather a forcible pressure upon the integuments co

vering the infra orbital foramen, when, if that nerve is affected, the pain instantly abates.

This being fairly ascertained, and the patient seated in a favourable position; an incision is to be made about three quarters of an inch in length, beginning rather more than a quarter of an inch below the middle of the orbit, and carrying it obliquely outward, and a little downward, so as to pass directly over the infra orbital foramen; taking care to cut down to the bone. For this purpose, a small pointed knife will be preferable to any other, as, from the inequalities on the surface of the maxillary bone at this part, it will enable the operator to divide with more certainty such nervous filaments as may be seated in the depressions.

Some surgeons advise the nerve to be carefully laid bare by dissection, and then divided. Others, in addition to this, recommend a blunt probe to be forcibly passed into

the foramen, so as to detach any portion of the nerve that may have escaped the knife. But neither of these modes of operating appears to me to be necessary.

By the first incision, which is to be carried at once to the bone, the body of the nerve will probably be divided; but to insure this, and in order that none of the communicating branches may escape, I would now suggest the propriety of dissecting back the skin about the eighth part of an inch on each side of the wound, and of making another incision, within the first, which should completely surround the infra orbital foramen. In this way, it is evident, the trunk of the nerve, and probably most of its communicating branches, would be twice divided; the operation could not occasion much additional pain to the patient; and it would equally obviate the principal objection to the simple division, namely, the speedy reunion of the divided nerve.

The operation being finished, the sides of the wound are to be brought together in the usual manner, by a strip of adhesive plaster.

A similar method of operating might, I think, be followed when the inferior maxillary nerve is affected; only here, as Professor THOMSON ingeniously observes*, it is not necessary to divide the integuments of the chin, as the nerve may be easily reached, and the operation more conveniently performed within the lip, by simply depressing it. Indeed, wherever it is necessary and safe to operate, whether in the face or elsewhere, unless where a portion of the nerve can be fairly dissected out†, I should be inclined, for the reasons above mentioned, to try the effect of a double incision.

It is scarcely necessary to observe, that the

* In his Lectures on Surgery.

† See the case related by Mr Abernethy, formerly alluded to.

small arteries which accompany the superior and inferior maxillary nerves, are unavoidably divided in the operation. When they occasion troublesome hemorrhage, it may be stopped, by applying a dossil of lint soaked in spirits, or simply by making pressure with the finger for a few minutes.

F I N I S.

Small arteries which accompany the superior and inferior maxillary nerves, are unavoidably divided in the operation. When they occasion troublesome hemorrhage, it may be stopped by applying a dress of lint soaked in spirits, or simply by making pressure with the finger for a few minutes.